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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,629	07/28/2003	I-Hsien Lee	6720.0077-01	4312

22852 7590 04/12/2007  
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EXAMINER

CHAWAN, VIJAY B

ART UNIT PAPER NUMBER

2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	04/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/627,629

Applicant(s)

LEE ET AL.

Examiner

Vijay B. Chawan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-22 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 23 is objected to because of the following informalities: In line 5, ", etc." is vague and indefinite. Appropriate correction is required.

### ***Allowable Subject Matter***

2. Claims 1-22 are allowed.
3. The following is an examiner's statement of reasons for allowance: Applicants teach a method for speech system having a plurality of modes including at least a first mode and a second mode consecutive with the first mode, comprising: providing an input speech signal, dividing the speech signal into a plurality of frames, dividing at least one of the plurality of frames into sub-frames including a plurality of pulses, selecting a first number of pulses for the first mode, with a second number of remaining pulses in the frame plus the first number of pulses in the first mode for the second mode, providing a plurality of sub-modes between the first mode and the second mode, wherein each sub-mode contains a third number of pulses including at least all the pulses in the first mode, and wherein the third number of pulses in the sub-mode are selected by dropping a portion of the pulses in the second mode, forming a base layer including the first number of pulses, forming an enhancement layer including the second

number of the remaining pulses, generating a bit stream including a basic bit stream and an enhancement bit stream, including generating linear prediction (LPC) coefficients, generating pitch-related information, generating pulse-related information, forming the basic bit stream including the LPC coefficients, the pitch-related information, and the pulse-related information of the pulses in the base-layer, and forming the enhancement bit stream including the pulse-related information of the pulses in the enhancement layer, wherein the basic bit stream is used to update memory states of the speech system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. This application is in condition for allowance except for the following formal matters:

See objection to claim 23 above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

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5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen (6,996,522) teaches CELP-based speech coding for fine grain scalability by altering sub-frame pitch-pulse.

Nomura (7,024,355) teaches speech coder/decoder.

Gao (7,117,146) teaches a system for improved use of pitch enhancement with subcodebooks.

Cellario et al., (6,108,626) teach object oriented audio coding.

Arslan et al., (6,263,307) teach adaptive Weiner filtering using line spectral frequencies.

Swaminathan (5,495,555) teaches high quality low bit rate CELP-based speech codec.

Hagen et al., (6,182,030) teach enhanced coding to improve coded communication signals.

McCree (5,966,689) teaches adaptive filter and filtering method for low bit rate coding.

Heidari et al., (6,055,496) teach vector quantization in CELP speech coder.

Park (6,148,288) teaches scalable audio coding/decoding method and apparatus.

Ehara et al., (6,685,666) teach voice encoding device, voice decoding device, recording medium for recording program for realizing voice encoding/decoding and mobile communication device.


Rotola-Pukkila et al., (6,732,070) teach Wideband speech codec using a higher sampling rate in analysis and synthesis filtering than in excitation searching.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is (571) 272-7601. The examiner can normally be reached on Monday Through Friday 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Vijay B. Chawan  
Primary Examiner  
Art Unit 2626

vbc  
4/9/07

**VIJAY CHAWAN  
PRIMARY EXAMINER**